Lecture questions

In this exercise you will answer questions related to this week's lecture.

Note that you can submit the answer to each question only once. The questions are designed to be easy if you have followed the lecture. Note that the questions can vary slightly between students.

Points 10 / 10 My submissions 1 / 1 Deadline Friday, 10 March 2023, 19:00 To be submitted alone

The deadline for the assignment has passed (Wednesday, 22 March 2023, 19:00).

Types of models

Question 1 10 / 10

What is the difference between stylistic model and microsimulation?

- Stylistic models are more detailed and realistic than microsimulation models, while microsimulation models are more abstract and simplified.
- **Stylistic models are simplified representations of complex systems that focus on the essential features and processes, while microsimulation models are more detailed and try to represent the system as accurately as possible.**
- Stylistic models are used to study large-scale trends and patterns, while microsimulation models are used to study individual behavior and interactions.

✔ Correct!

Submit

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Stylistic model

Question 1 10 / 10

According to the lecture, which one is not a guiding principle of a stylistic model?

- Make it as simple as possible
- Anything outside of the core mechanisms is modelled as maximally random
- **Model for numbers, not insights**

✔ Correct!

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Agents

Question 1 10 / 10

What is an agent in an agent-based model?

- **Agents represent the smallest individual units. They act independently, interact with other agents, react to the environment, and take initiative to fill their goals.**
- Agents in an agent-based model are the key decision-makers and leaders within the system, representing the most influential individuals or organizations.
- Agents in an agent-based model are the units that are there to observe the model. They do not interact with other elements, react to the environment, or have any initiative or their own goals.

✔ Correct!

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Missing information

Question 1 10 / 10

How can missing information be modelled in a stylistic agent-based model according to the lectures?

- **With randomness. If we don't know something or want to specify something in the model, we assume that it is "maximally random", i.e., we sample from a uniform distribution.**
- With expert panels. We set up a panel of experts to discuss the detail of the model, and they will come up with a suggestion on the parameter value.
- With the emergence principle. We run the simulation model without the mechanism and allow the value of the missing parameter to emerge, and then use this in the consequent simulations.

✔ Correct!

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Schelling model

Question 1 10 / 10

What is the purpose of the Schelling model which was used as an example in the lectures?

- The Schelling model was developed to predict the racial segregation in New York. Its purpose was to come up with yearly predictions on the amount of segregation on the following years and to come up with possible interventions by city planners to tackle the growing segregation.
- **The Schelling model is used to study the processes that can lead to segregation in society. It was developed to understand how seemingly minor individual preferences and behaviors can result in large-scale patterns of segregation in a population.**
- The purpose of the Schelling model is to understand how segregation and inequality in society are caused by discrimination and power imbalances. The model uses mathematical equations to show how these factors lead to segregation and how they can be dismantled through policies and interventions that address the underlying power dynamics.

✔ Correct!

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Microsimulation models

Question 1 10 / 10

According to the lecture, which is not a feature of microsimulation models?

- Choosing the correct model and collecting data for it can be difficult in practice.
- **Microsimulation models are very expensive to run, which limits their use in practice.**
- Microsimulation models can be used as "weather forecasts" for phenomena building on social behavior, such as epidemic spreading and economics predictions.

✔ Correct!

Submit